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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,182	02/12/2007	Albert J. Banes	4647-061111	7329
28289 7590 09/19/2008 THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219				
EXAMINER				
PERUNGAVOOR, SATHYANARAYA V				
ART UNIT		PAPER NUMBER		
2624				
MAIL DATE		DELIVERY MODE		
09/19/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/576,182

**Applicant(s)**

BANES ET AL.

**Examiner**

SATH V. PERUNGAVOOR

**Art Unit**

2624

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,7-9,11,18-20,22,23,25,30-32,36-39,41,43,44,46,53-55,65-67 and 69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 08/17/07.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 1-5,7-9,11,18-20,22,23,25,30-32,36-39,41,43,44,46,53-55,65-67 and 69.

## **DETAILED ACTION**

### ***Priority***

[1] Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(c) is acknowledged. It also noted that the instant application (10/576,182) as filed discloses additional subject matter not disclosed in the provisional application (60/513,355). Earlier filing date is granted only for subject disclosed in the provisional application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[2] Claims 1-5, 7-9, 11, 18-20, 22, 23, 25, 30-32, 36-39, 41, 43, 44, 46, 53-55, 65-67 and 69 are rejected under 35 U.S.C. 102(b) as being anticipated by Giuliano et al. ("Giuliano") [US 6,416,959 B1].

Regarding claim 1, Giuliano meets the claim limitations, as follows:

A tissue engineered construct analytical imaging system (*i.e. fig. 1*) for use in connection with at least one culture well (*i.e. 4*) having a tissue engineered construct therein (*i.e. cells*) and positionable (*i.e. moving stage*) in an enclosed environment (*i.e. environment chamber*), the system comprising [*fig. 1; col. 6, ll. 16-53*]: an imaging device (*i.e. 7*) in operational communication with the enclosed environment (*i.e. environment chamber*) and configured to obtain data reflective of a well area of interest in the at

least one culture well (*i.e. microwell in the plate*), without the removal of the culture well from the enclosed environment (*i.e. environment chamber*) [fig. 1; col. 6, ll. 48-53; col. 12, ll. 11-22]; and a computer controller (*i.e. 10*) configured to at least one of: (i) receive data from the imaging device [col. 6, ll. 29-35]; (ii) analyze the data for determining at least one desired parameter within the well area of interest [col. 6, ll. 29-35]; and (iii) output data reflecting results of an analysis [col. 6, ll. 29-35].

Regarding claim 2, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the imaging device is at least one of a camera, a digital camera, a scanner, a scanning device, a plurality of cameras, a video camera, a digital video camera and a device capable of capturing an image [col. 6, ll. 24].

Regarding claim 3, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the computer controller is at least one of a computing device, a computer, a personal computer, a controller, a circuit board, a laptop, a personal digital assistant, a networked computer and a server [col. 6, ll. 29].

Regarding claim 4, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the computer controller is further configured to control a mechanical loading mechanism (*i.e. 305*) for loading the tissue engineered construct [fig. 11].

Regarding claim 5, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the at least one culture well is positionable upon the imaging device [col. 6, ll. 20-25].

Regarding claim 7, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the well area of interest includes at least the tissue engineered construct in the culture well [col. 7, ll. 1-10].

Regarding claim 8, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the computer controller is further configured to expand, contract, manipulate and modify (*i.e.* 104) the well area of interest (*i.e.* *autofocus*) [fig. 9].

Regarding claim 9, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein data reflecting a plurality of well areas of interest is obtained by the imaging device [col. 12, ll. 11-22].

Regarding claim 11, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein data reflective of a plurality of well areas of interest is obtained (*i.e.* 105 and 108) by the imaging device for a respective plurality of culture wells positioned within the enclosed environment [fig. 9].

Regarding claim 18, Giuliano meets the claim limitations, as follows:

The system of claim 1, further comprising a storage device (*i.e. database*) in communication with the computer controller and configured to store at least one of data, image data, well culture data, well area of interest data, construct area of interest data, incubator data, parameter data, digital input data and analog input data [*col. 13, ll. 10-25*].

Regarding claim 19, Giuliano meets the claim limitations, as follows:

The system of claim 1, further comprising an input device in communication with the computer controller and configured to transmit user input commands to the computer controller [*col. 16, ll. 25-30*].

Regarding claim 20, Giuliano meets the claim limitations, as follows:

The system of claim 1, further comprising a display device in communication with the computer controller and configured to display at least one of data, image data, well culture data, well area of interest data, construct area of interest data, incubator data, parameter data, digital input data, analog input data, user input data, graphical data, analytical results and images [*col. 13, ll. 10-20*].

Regarding claim 22, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein, after the data is obtained by the imaging device and received by the computer controller, a user can manipulate at least one of the well area of interest and a construct area of interest for use in further data collection for the at least one well culture [*col. 19, ll. 28-38*].

Regarding claim 23, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the computer controller is further configured to uniquely identify (*i.e.* 116) a culture well in a plurality of culture wells [*fig. 9*].

Regarding claim 25, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the well area of interest includes a construct area of interest (*i.e. nucleus*), and wherein the desired parameter analyzed is the area of the tissue engineered construct within the construct area of interest [*col. 18, ll. 23-27*].

Regarding claim 30, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the tissue engineered construct is at least one of tissue, genetic material, bioartificial tissue, bioartificial tendon, a cellular construct and an organic construct [*col. 16, ll. 1-10*].

Regarding claim 31, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the tissue engineered construct is cells cultured in a three-dimensional collagen gel [*col. 32, ll. 1-5*].

Regarding claim 32, Giuliano meets the claim limitations, as follows:

The system of claim 1, wherein the tissue engineered construct is anchored within the culture well on at least two ends thereof [*col. 32, ll. 1-5*].



Regarding claim 67, Giuliano meets the claim limitations, as follows:

The method of claim 36, wherein the data is a digital image, the method further comprising the step of pre-defining the desired resolution of the digital image [*col. 12, ll. 17-22*].

Regarding claims 36-39, 41, 43, 44, 46, 53-55, 65, 66 and 69, all claimed limitations are set forth and rejected as per discussion for claims 1-5, 7-9, 11, 18-20, 22, 23, 25 and 30-32.

### ***Contact Information***

[3] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: September 20, 2008

/Sath V. Perungavoor/

Sath V. Perungavoor

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